



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/584,659

06/26/2006

Anders Thulin

0904-012

8176

42015 7590 06/04/2008  
POTOMAC PATENT GROUP PLLC  
P. O. BOX 270  
FREDERICKSBURG, VA 22404

EXAMINER

KITOV, ZEEV V

ART UNIT

PAPER NUMBER

2836

NOTIFICATION DATE

DELIVERY MODE

06/04/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,659	<b>Applicant(s)</b> THULIN, ANDERS	
	<b>Examiner</b> ZEEV KITOV	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 4, 6 - 10 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/19/06</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A reason for that is in following limitation: "at least one metal point of relatively low mass". It is not clear how the "metal point" can be of low metal mass. Additionally the "relatively low mass" is indefinite characterization, since the boundaries of "relatively low mass" are totally unclear. For purpose of examination it is interpreted as: "at least one metal part is of low mass".

### ***Objection***

Claim 2 is objected to due to a lack of proper dependency, i.e. "A device according to claim wherein...". For purpose of examination it is assumed that Claim 2 depends on Claim 1.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2836

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (US 2001/0050270). Regarding Claim 1, Sato et al. disclose a device for the dissipation of electricity from an object, the device comprising at least one equivalent highly conductive contacting means (13 in Fig. 1) intended to be applied in contact with the object inherent in the concept of discharge apparatus and to be connected to a dissipation point capable of dissipating electric current, and a low conductive material (12 in Fig. 1) for slow dissipation of current from the object, wherein during use, for safe dissipation of static electricity from the object, the equivalent contacting means is connected to the dissipation point (bottom of element 11 in Fig. 1) via the low conductive material (12 in Fig. 1), such that when the equivalent contacting means is applied into contact with the object the current is first dissipated from the object over to the highly conductive contacting means, then through the low conductive material, and finally to the dissipation point, wherein the formation of sparks is avoided. As to a slow discharge, the low conductivity material has a noticeable resistance and therefore allows a limited amount of current per second thus substantially reducing a speed of discharge.

Regarding Claim 6, Sato et al. disclose the equivalent contacting means with at least one metal part of relatively low mass. According to Sato et al. ([0035]), "The layered anisotropically conductive element 11 is made of metallic thin plates, for example, of copper coated with an insulative film, for example, a film of an alumina

ceramic or enamel, and laminated on and bonded to each other". It is clear therefore that such contacting structure has low mass.

Regarding Claim 7, Sato et al. disclose the low conductive material in a form of isolating matrix (3 in Fig. 12) and a conductive additive mixed therein (4 in Fig. 12) made of copper.

Regarding Claim 10, Sato et al. disclose a device wherein the low conductive material comprises a ceramic material, i.e. Includes metallic thin plates, made of copper coated with an insulative film, made of alumina ceramic or enamel, and laminated on and bonded to each other ([0035]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. (US 4,749,362) in view of Kelin et al. (SU 856048). Regarding Claim 1, Hoffman et al. disclose the device including at least one highly conductive equivalent contacting means (80 and 81 in Fig. 2) to be applied in contact with the object and a low conductive material (14a and 14b in Fig. 1 and 2) for slow dissipation (conduction) of current from the object, dissipation of static electricity from the object, the equivalent contacting means is connected to the cable (12 in Fig. 1 and 2) via the low conductive

Art Unit: 2836

material, such that when the equivalent contacting means is applied into contact with the object (pins of DIP IC in Fig. 1) the current is first dissipated from the object over to the highly conductive contacting means (80 and 81 in Fig. 2), then through the low conductive material (14a and 14b in Fig. 1 and 2). However, it does not disclose use of the device for dissipation of a charge from an object. Kelin et al. disclose such use by disclosing the device with low conductive material (3 in Fig. 1) being connected by the wire to the dissipation point (ground in Fig. 1) for discharging the charge from the object (wire 7 in Fig. 1). In the Hoffman device used according to teachings of Kelin et al., the device is connected to the dissipation point (ground) and is capable of dissipating electric current; the low conducting material is used for slowing the dissipation of the current from the object, thus avoiding the formation of sparks. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Hoffman device according to teachings of Kelin et al., thus allowing its use for the charge (current) safe dissipation from the object, since (1) Kelin et al. demonstrate a necessity for such use, and (2) it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. in view of Kelin et al. Regarding Claims 2 and 3, Hoffman et al. disclose following: the device formed as a clamp having two opposite equivalent conductive contacting means (80 and 81 in Fig. 2), which are biased against each other by means

of a spring (10 in Fig. 2), two mutually hinged arms connected to respective equivalent contacting means, and a cable (12 in Fig. 1 and 2) for further interconnection, wherein the low conductive material, i.e. resistors 14a and 14b in Fig. 1 and 2) is included in at least one of the arms, such that at least one of the contacting means is connected to the cable via the low conductive material. In the Sato et al. system modified according to teachings of Hoffman, the cable is the dissipation cable being inherently connected to dissipation point (ground). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sato et al. system according to teachings of Hoffman et al. because it provides the Saito system with effective means of attachment to the DIP IC thus making possible its use for DIP IC testing and ESD protection.

Regarding Claim 4, Hoffman et al. discloses a device wherein at least one of the arms is provided with an interior part of the low conductive material (14a and 14b in Fig. 1 and 2) and an exterior part of an insulating material surrounding the interior part (20 in Fig. 2).

Regarding Claim 6, Hoffman et al. disclose the equivalent contacting means with at least one metal point, test clip termination, of relatively low mass (80 and 81 in Fig. 2).

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman in view of Kelin et al. and Lodini (US 4,977,386). Claim 7 requires the low conductive material being formed as an insulating matrix and a conductive additive. Lodini discloses the resistive element being formed as a supporting insulating matrix (1

in Fig. 1) and an electrically-conductive material (2 in Fig. 1) distributed uniformly inside the matrix (col. 2, lines 56 – 68). Such method of forming the resistor has an advantage, since according to Lodini, an actual value of resistance can be achieved by varying an amount of pressure on the element, while normally the resistance depends on variety of factors such as chemical composition of the resistive matter and its physical dimensions. Controlling all these factors is a rather complex task. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Hoffman device according to teachings of Lodini, because such resistive element would provide a number of advantages: (1) the resistor is being fully integrated with the clip of Hoffman rather than embedded as in Hoffman's device, (2) the value of the resistor can be controlled and if necessary adjusted at the time of manufacturing and (3) the Lodini manufacturing process is simpler than other alternatives and may use materials with a wide range of specific resistance values, and (4) both technologies, i.e. forming the plastic clip of Hoffman and forming the resistor of Lodini are well known in the art; therefore, such modification is nothing but application of a known technique to a known device ready for improvement to yield predictable results.

Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman in view of Kelin et al., Lodini and Nakamura (JP 410273639). Regarding Claim 9, Lodini discloses variety of material, which may be used in his resistive element, a silicon rubber, epoxy resin etc., since according to Lodini, the material of matrix may be any type of electrically-insulating material, providing it is flexible enough to flex when a given



Art Unit: 2836

pressure is applied on the resistor. And further: materials such as natural and synthetic rubber, or numerous types of synthetic thermoplastic resins and, in particular, silicon rubber and epoxy resin, may be employed (col. 3, lines 18 – 43). Nakamura discloses electroconductive (resistive) element formed as a insulative matrix with a metal powder, while the matrix is formed from polyamide (see Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made substitute the materials recited by Lodini, such as silicon rubber or epoxy resin by polyamide according to teachings of Nakamura, because according to Lodini, type of electrically-insulating sufficiently flexible material may be used and therefore replacement of one polymer for another because it is nothing but simple substitution of one known equivalent for another to obtain predictable results.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. in view of Keli et al. and Masuda (US 3,705,324). As per Claim 10, it differs from Claim 1 rejected above by its limitation of the low conductive material being a ceramic material. Masuda discloses the grounding path for the colliding electrons being provided by using a relatively low resistivity ceramic base 1 having conductivity of the order of about  $3 \times 10^5$  to  $10^8$  ohm-cm (col. 3, line 28 – 40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the resistor of Hoffman by the relatively low resistivity ceramic element according to teachings of Masuda, because (1) Masuda element is used for discharge of electricity to ground, and (2) replacement of the resistor of Hoffman by the ceramic element of Masuda is a

simple substitution of one known equivalent element for another to obtain predictable results.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Johansen et al. (US 5,812,357). Regarding Claim 2, Johansen et al. disclose the device formed as a clamp with two opposite equivalent conductive contacting means (66 and 64 in Fig. 7) which are biased against each other by means of a spring of one of the contacts (64 in Fig. 64 in Fig. 7) when brought together, two mutually hinged arms connected to respective equivalent contacting means, i.e. their contacting surfaces. The dissipation cable connected to the dissipation point is inherent in the concept of discharge (see Abstract). Sato et al. further discloses the low conductive material (12 in Fig. 1) being used in at least one of the arms, such that one of the contacting means is connected to the dissipation cable inherent in the structure via the low conductive material. According to Dictionary.com Unabridged (v 1.1), a hinge is a jointed device or flexible piece on which a door, gate, shutter, lid, or other attached part turns, swings, or moves. In this particular case one of the attached parts, i.e. the contact (64 in Fig. 7) moves along another contact 66 in Fig. 7) thus satisfying definition of mutually hinged by a base (62 in Fig. 7).

Use of the low conductive material provides an advantage to the discharge structure since it may protect the electrical and/or electronic circuits against over-currents at the time of discharge. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Saito et al. discharge

contacts with the Johansen et al. spring loaded contact structure because such combination will ensure existence of a proper reliable contact for electrostatic discharge protection of the magnetic read/write transducer.

### ***Allowable Subject Matter***

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. A reason for that is that the claim recites at least one arm provided with an interior part of an insulating material and an exterior cover of the low conducting material. Such limitation has not been found in the collected prior art record.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can

Art Unit: 2836

be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

/Michael J Sherry/  
Supervisory Patent Examiner, Art Unit 2836

/Z. K./

Examiner, Art Unit 2836

5/22/2008